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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Marc Husemann

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EXAMINER

WYROZEBSKI LEE, KATARZYNA I

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/796,231	Applicant(s) HUSEMANN ET AL.	
	Examiner Katarzyna Wyrozebski	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

In view of applicant's request for continued prosecution following office action is non-final. Applicant's amendment overcame the teachings of the prior art, since according to the prior art of record ammonium polyphosphate is utilized in a synergistic mixture with another nitrogen containing flame retardant. Instant claims are limited to a composition comprising only one flame retardant, which is ammonium polyphosphate.

In view of applicant's amendment, new search has been conducted and references are applied as follows. It should be pointed out that independent process claim is not limiting the ammonium polyphosphate to only one flame retardant.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3, 22, 25, 26 recite the limitation "said at least one flame retardant" in line 2.

There is insufficient antecedent basis for this limitation in the claim. Specifically claim 1 only discloses "a flame retardant" and not "at least one flame retardant."

Claim Objections

3. Claims 10 and 14 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Specifically, claim 6 discloses acrylate monomer, where R_1 is defined as H or CH_3 . At the same time claim 10 lists monomers that include R_1 group that is higher than methyl. The group therefore, fails to narrow down the limitations of claim 6.

4. Claim 8 is objected to because of the following informalities: specifically applicants indicated that C1-C30 alkyl radicals are C4-C14 alkyl radicals. It appears to be a grammatical error, but the limitation needs to be corrected. Appropriate correction is required.

Other issues with claims –

Claim 4, applicants are requested to correct spelling for N-substituted amide. Term "substituted" is not exactly or specifically defined in the specification.

Claim 11 appears to be duplicate of claim 6.

Claim 12 appears to be duplicate of claim 8

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Claim Interpretation – Applicant's claims currently recite a "flame retardant pressure sensitive adhesive comprising...", wherein the claim is strictly composition claims. In such event, term "pressure sensitive" is viewed as intended use, since the claim does not contain language that would otherwise distinguish the composition from for example hot melt adhesive.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1, 2, 4, 6, 8, 10-12, 16, 18, 22-25, 32 are rejected under 35 U.S.C. 102(b) as being anticipated by BOYCE (EP 018,643).

The prior art of BOYCE discloses a composition for an adhesive comprising polymer, additives and flame retardant.

Polymer of BOYCE (page 2) is acrylate based copolymer, wherein 50-60 wt % of polymerized units are methyl acrylate units. Other units include ethylene and carboxylate functionality containing units such as maleic acid monoethyl ether. Page 3 further teaches use of maleic acid and acrylic acid.

Flame retardant is utilized in amount of 0.1-10 pbw per 100 parts of polymer and it is ammonium polyphosphate (page 2). There are no other flame retardants listed.

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Tackifiers – are additives as described beginning page 4. Their amount in the composition of BOYCE is in a range of up to 250 pbw. The choice of tackifier is based on its compatibility with the composition. Compatibility of tackifiers is provided on page 6.

Fillers are used up to 200 pbw and include inorganic fillers such as carbon black, calcium carbonate, titanium dioxide and the like (page 7).

Plasticizers are utilized in amount of up to 150 pbw and are described in detail beginning page 8.

Other additives include further polymers as defined on page 13 of the teachings of BOYCE.

In process – the components are melt processed using extruders. Ammonium polyphosphate as indicated on pages 14-16 can be added either after the components are mixed (sequential addition) or during mixing of the components (simultaneous).

In the light of the above disclosure, the prior art of BOYCE anticipates claims rejected above.

7. Claims 1-4, 6-8, 10-12, 14-19, 21-25, 27, 29, 31 are rejected under 35 U.S.C. 102(b) as being anticipated by PUFAHL (US 4,699,824).

See example XI where ammonium polyphosphate is added to the pressure sensitive composition as recited in example II. However example II will eventually lead to basic composition of example I.

In example I pressure sensitive acrylic resin blend comprising 15 pbw of AEROSET acrylic resin and 100 pbw of second modified acrylic resin. The composition is melt-mixed and

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applied to a tape or liner by knife coater. The composition is dried at 225°F. Example XI teaches addition of ammonium polyphosphate to the resin composition. Although examples provided are not specific to the amount of flame retardant, col. 17 of PUFAHL clearly indicates that the amount is in a range of 60-150 %.

Polymeric component of the pressure sensitive adhesive of PUFAHL is defined in col. 24 of the instant invention and it satisfies the requirements of instant invention. The polymerized resin comprises acrylate monomers and comonomers carrying functional groups such as glycidyl, hydroxyl as well as multifunctional acrylates for purpose of crosslinking. The polymer is polymerized in solution *via* radical polymerization. Additional monomers as depicted in col. 25 include vinyl compounds such as vinyl acetate, starch and the like. Amounts were disclosed above. The polymers utilized in PUFAHL are those disclosed in US Patents 3,532,708; 3,701,758; 3,222,419; 3,008,850; 3,269,994.

Tackifiers are disclosed in col. 25 and further defined in examples. For example in formulation B, the tackifiers are utilized in grand total of 35 pbw along with acrylate based resin.

The adhesive is coated on one or both surfaces of the substrate. Substrate being plastic, cellulosic, plastic films, textile, synthetic fibers, orlon (acrylic fiber), polyamide (col. 26).

In the light of the above disclosure the prior art of PUFAHL anticipates claims rejected above.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 5, 9, 1320, 26, 28, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over PUFAHL (US 4,699,824) in view of BOYCE (EP 018,643).

The discussion of the disclosure of the prior art of PUFAHL from paragraph 7 of this office action is incorporated here by reference.

In addition to the above disclosure, the following are obvious in light of the teachings of PUFAHL. One, aspect of obviousness lies in the molecular weight of the acrylic polymers. Although the prior art of PUFAHL does not specifically disclose the molecular weight, it utilizes tradenames and other patents where the polymers are disclosed. In all cases the polymers are molecular weight polymer with glass transition temperature of below -20° C (US 3,222,419) also incorporated herein by reference. They are copolymers with not only acrylates but also acrylamides and acrylonitriles. The polymers disclosed in '419 in addition to having low glass transition temperature are also processed using temperatures at or below those of the instant invention. Since the molecular weight is directly related to the type of the monomers included in polymer as well as glass transition temperature, it is evident that the molecular weight of the polymers of PUFAHL will be below 600,000 g/mol.

PET fabric - although the prior art of PUFAHL does not specifically disclose the recitation of PET fabric, he does teach textile. There are limited numbers of textiles utilized and

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they include nylons and polyesters. Therefore it is examiner's position that the PET fabric is rendered obvious in the light of teachings of PUFAHL reciting textile substrates.

The difference between the present invention and the teachings of PUFAHL is recitation of extruders as means of melt mixing.

The discussion of the disclosure of the prior art of BOYCE from paragraph 6 above is incorporated here by reference.

The prior art of BOYCE utilize melt process for mixing the adhesive composition. The outcome is the same as that of PUFAHL.

In the light of the above disclosure it would have been obvious to one having ordinary skill in the art to utilize extruder as a mixing medium for the composition of PUFAHL. The extruders are excellent source of mixing of chemical composition and their barrel temperatures can be adjusted to optimize the results and avoid any decomposition or formation of by products.

Applicant's Arguments are considered moot since the new rejections are stated.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski whose telephone number is (571) 272-1127. The examiner can normally be reached on Mon-Thurs 8:30 AM-2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Katarzyna Wyrozebski/
Primary Examiner, Art Unit 1796
July 30, 2008